Preparedness for Asean Economic Community (AEC): a case study of Malaysian SME manufacturing sector

Article

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ABSTRACT

The AEC initiative poses both significant opportunities and difficult challenges to the Malaysian SME communities. This study sets out to investigate the preparedness of the local SMEs to compete and exploit opportunities in a post-AEC era. The aim is to contribute to existing literature and knowledge base on SMEs' practices in the ASEAN region.The manufacturing sector has been selected for study, and the research efforts focus on procurement competencies. SME procurement practices in the two largest manufacturing sub-sectors in Malaysia: resource-based (RB) and electrical & electronics (E&E) are explored. Preparednessfor AEC is gauged from four key performance areas summarized from literature review: strategic alignment of procurement function; strategic supplier relationship management; managing global supply chain risks; and global sourcing and supply base optimization. Sixkey research activities are also identified for each performance area from the findings of previous works. Data was collected using a survey instrument and face-to-face interviews.Research methodology is primarily qualitative with quantitative data for robustness check. The underlying assumptions of SMEs' operations for the performance areas are studied.The findings revealpeculiar procurement practices inMalaysian SMEmanufacturersthat have significant implications on their preparedness to compete effectively post-AEC. The study also categorizes and compares findings from different industrial and ownership contexts. The results provide an understanding of the key influences that have contributed to variations in Malaysian SMEs' attitude towards trade liberalization challenges and business process improvements in comparison with practices in foreign firms and more advanced economies.

KEYWORDS
Procurement Competencies
SME Procurement Practices
SME Manufacturing Sector
AEC Impact on SMEs
Malaysian SMEs
Procurement Performance Areas

1. Introduction

The impact of trade liberalization and market deregulation on business performance remains a contentious and empirical issue in the literature. For economists, trade has an overwhelmingly positive impact on economic well-being. Indeed, the concept of trade at the national and international levels is, in many respects, the cornerstone of the economics discipline, and the gains from trade or commercial exchange are the foundation without which modern economies could not exist. However, the benefits of trade and commercial exchange can fade into insignificance compared to the disruption experienced by a business community when it is their skill or operational process that is overtaken by competitors who have learned to produce their product/service, or a substitute, more efficiently. In this case, we would not expect the affected business community to welcome the increased competition and the change that comes with it, even if the community recognizes that such economic evolution is the basis of economic growth and increased prosperity.

This paper studies the SME manufacturing community in Malaysia and examines the community's preparedness for competition inthe single market with the ASEAN Economic Community (AEC) liberalization initiative. Successful liberalization and globalization requires the integration of processes, practices and procedures across dispersed global organizations to achieve coordination of worldwide activities. Organizations that aspire for liberalization and globalization are required to employ radical changes in their process and organizational structures (Cavusgil et al., 2004). Among these radical changes is the need to plan and allocate resources on a global basis to integrate and coordinate worldwide manufacturing facilities, an essential element of implementing a globally integrated strategy (Dunning, 1981; Porter, 1980). Manufacturing integration and coordination, in turn, requires global value chain coordination if a global market advantage is to be established (Yeniyurt et al., 2005). A key element in integrating and coordinating global manufacturing facilities is the procurement activity (Kotabe & Murray, 2004). In contrast with other mechanisms necessary for global integration such as global product platforms,

global talent pools and global HR systems, global procurement has been enthusiastically adopted by large organizations and multinationals, primarily because the benefits of uniform sourcing are more apparent. However, does the SME community in Malaysia share the same enthusiasm as large organizations and multinationals, given the distinctively different context of this economic sector?

The author is aware that investigation into the preparedness of SMEs for AEC covers a broad scope of competencies.Many countries realise that SMEs are the building blocks of their economies.Although SMEs provide good opportunities for economic development in a nation, they suffer from high failure rates. The US Small Business Administration (2010) reported fewer than half of all new SMEs remains in operation after five years. Malay Mail Online (2016) reported that eight out of ten small businesses fail every year. One of the major reasons for the high failure rates of new SMEs is that these organizations often have much fewer resources, such as financial reserves or available credit to borrow, management expertise, and technical support, when compared with larger organizations. Therefore, effective resource management is of critical importance for SMEs (Peik, 2011). Leenders et al.(2006)found procurement of goods and services represents the largest single category of spending in most manufacturing organizations, typically ranging from 50% to 80% of revenues.Thus, improving quality and productivity through effective supply management practice is especially essentialfor SMEs when resources are scarce.

Literature reviews found limited research on the preparedness of Malaysian manufacturers for AEC. In two related studies, Abidin et al. (2012) have attempted to gauge and understand the general readiness of Malaysian private sector for AEC, while Yean (2004) concludes that trade liberalization under the ASEAN free trade area (AFTA) has negatively impacted Malaysian automotive and electronic manufacturers, as they lost out due to productivity and competitiveness issues.Previous procurement studies in Malaysia have mainly focused on public sector, e-procurement and government procurement policies. There is limited research work done on SME procurement practices and the decision-making rationale. This paper aims to contribute to a better contextual understanding of the procurement practices by Malaysian SME manufacturing setups when they are confronted with challenges and opportunities post-AEC. The focus of this paper is to explore not only the *'what'* but more importantly the '*how'* and '*why'*with SME practices. To have a more meaningful understanding of this economicsector's practices, the studyintends to lookbeyond behavior and explore the attitudes and assumptions in procurement decision-making by the SME manufacturers.

2. Overview ofthe ASEAN Economic Community (AEC)

The year 2015 was a significant milestone in the regional economic integration agenda for the Association of Southeast Asian Nations (ASEAN), representing 10 member countries in the region: Laos, Myanmar, Thailand, Malaysia, Singapore, Vietnam, Philippines, Cambodia, Brunei and Indonesia. The three pillars of the ASEAN community, namely the ASEAN Political-Security Community (APSC), the ASEAN Socio-Cultural Community (ASCC) and the AEC, are the most crucial areas deemed necessary for the progress and evolution of ASEAN and its people.

The establishment of the AEC initiative offers opportunities in the form of a single market and production base of US$2.6 trillion and over 622 million people. This push for regional economic integration has come from the need of ASEAN nations to stay competitive and remain economically viable. In 2014, the AEC was collectively the third largest economy in Asia and the seventh largest in the world (AEC Blueprint 2025).

The establishment of the AEC is a deliberate process that has been ongoing in the ASEAN spirit of progressive liberalization. Taking a stroll down memory lane, the journey towards the AEC began in 1977 with the ASEAN Preferential Trading Arrangements, followed by the initiation of the ASEAN Free Trade Area (AFTA) in 1993 and the full implementation of AFTA in 2010. In 2007, the big step towards deepening ASEAN economic integration was established through the implementation of the AEC Blueprint. The AEC comprises four sub-pillars: a single market and production base, a competitive economic region, equitable economic development and integration into global economy. The eventual signing of the mutual agreement on 31 December 2015,

officially declaring the establishment of the AEC, is viewed as the most significant outcome of a series of forums arranged by the ASEAN.

3. AEC and Malaysian SMEs

The Ministry of International Trade and Industries (MITI) in Malaysia is the lead organization for driving the ASEAN economic development in the country. There are also various government financial initiatives and working groups established to prepare local industries for the AEC.SME development is a core element of the AEC under the pillar 'equitable economic development'. Different countries have different definitions of SMEs. The Malaysian definition of SMEs endorsed in July 2013 for manufacturers are setups with sales turnover not exceeding RM50 million or employees not exceeding 200 (SMECorp, 2013). As per SME Census 2011, 57% of the total manufacturing establishments are micro firms with turnover of less than RM300,000 or with less than 5 full time employees. 36.8% are categorized small-size with turnover RM300,000-RM15 Million or with 5-75 full time employees. Only 6.1% of these establishments are medium-sized with turnover RM15 Million-RM200 Million or with full time employees 75-200 (DOSM & SMECorp).

An expected advantage of liberalization in the formation of the AEC for SMEs is increased competitiveness through the expansion of trade and investment to nearby countries that have abundant resources and lower manufacturing costs. SMEs can also expect to benefit through the establishment of a more stable and secure supply chain within the ASEAN region, leading to reduced costs through shorter and more reliable journey times in a secure environment where the interests and revenue of exporters and member states are protected.

However, there is no use singing the praises of ASEAN as a single market and production base if Malaysian SMEs cannot appreciate or take advantage of the business opportunities that have been created through this regional economic integration initiative. A recent SMECorp survey of SMEs cited by the *Star Online* on 23 July, 2015, highlighted that only about 40% of the respondents were aware of the AEC. Mamman et al. (2012) found that perspectives of Malaysian managers towards globalization were mixed. Abidin et al. (2012) also revealed that the level of awareness of Malaysian private businesses about the ASEAN economic liberalization was low. There is an obvious need to humanize the AEC initiative, which is about making it relevant for the business community equitably, and specifically for the SMEs.97% of business establishments in Malaysia are SMEs. SMEs have been at the core of Malaysia's economic transformation since the 1990s to an upper-middle income nation and are an important driver of employment and growth. These businesses are responsible for nearly 36% of the country's GDP, 65% of the country's employment, and nearly 18% of Malaysia's exports. (World Bank, 2016)

As discussed earlier, the AEC is the culmination of five decades of region-building and continued economic liberalization, allowing business enterprises to adjust, grow and take advantage of the enlarged market. The purpose has been that by the end of 2015, the local business community will not experience a sudden opening of the Malaysian markets. In this journey, ASEAN's economic growth has outpaced that of many other regional and global economies. ASEAN is now the second-fastest growing economy in Asia, after China (ASEANa).

An important question is who has benefited most from this economic integration? A quick analysis of the businesses that have benefited shows that those from the finance and communications sectors seem to dominate. For Malaysia, businesses such as Maybank, CIMB, Public Bank and Axiata have all successfully established a presence in ASEAN. Other sectors include real estate, oil and gas, retail, agribusiness and utilities. Then there is the budget airline, AirAsia, which has been namedthe world's best low cost carrier for 9 years in a row including the latest award for the year 2017.

The other important question is where are the Malaysian SMEs in this picture? There are Malaysian SMEs that have made inroads into ASEAN – in the auto sector, for example, companies such as Ingress Autoventures and AAPICO Hitech, both started as SMEs, but which have now emerged as significant regional players in that sector. In the food sector, Julie's, Marrybrown, Ramly, Mamee, Hup Seng and Bangi Kopitiam are among others that have also successfully

accessed the ASEAN market. However, these are just few examples of the many Malaysian businesses operating in the region, the majority of which are SMEs. It is important that for economic integration, SME participation should be the norm and not the exception.For instance, one Boston Consulting Group survey of over 230 business leaders and government officials found that more than 80% expect SMEs to lose out amid more intense competition after the AEC comes into force (CIMB ASEAN Research Institute, 2015).

4. Procurement practices and competencies of SMEs

A number of research papers reported significant differences in the procurement practices between larger organizations and SMEs (Bhagwat & Sharma, 2007; Paik et al., 2009; Quayle, 2003; Ramsey, 2001; Sharma et al., 2008; Vaaland & Heide, 2007; Wagner et al., 2003). Ramsey (2001) suggested smaller companies typically have less purchasing power; hence, they have little control over their vendors. In addition, small businesses suffer from a scarcity of internal resources, including skilled managers in specialized areas and advanced information systems. Wagner et al. (2003) also reported that SMEs have fewer resources than larger organizations and therefore they have less influence on their external business environment.

Quayle (2003) examined the perceived importance of purchasing function in SMEs. He showed that 65% of the respondents for his survey perceived purchasing to be unimportant, unlike the recognition of purchasing in large companies. Vaaland& Heide (2007) and Paik et al. (2009) found that, compared to managers of larger companies, managers in SMEs often place more emphasis on the areas that require immediate attention than their counterparts, and are forced to make decisions using a short-term perspective with little strategic planning involved in the purchasing function.

On information system (IS), Bhagwat and Sharma (2007) reported the type of information and IS requirements can differentiate SMEs from large organizations. Large organizations demand information in a more systematic and organized way than SMEs. The scope of the same type of IS in SMEs is very limited. SMEs also do not have the required IS infrastructure and resources to tap required information related to their business operations. Due to this, SMEs may often lose competitiveness and suffer losses in business. Sharma et al. (2008) further showed that many SMEs do not consider the implications of the long-term benefits of IS management but only consider short-term operational benefits. This implies that SMEs simply ignore the strategic benefits and intangibles of IS.

In Malaysia, SMEs limited resources to implement IS have been one of the critical barriers that hindered the adoption of information systems. The Malaysian government has allocated special grants and various initiatives to assist Malaysian SMEs to adopt information system software. Results from various study revealed that SMEs that use IS do increase their firm performance (Kharuddin et al., 2010; Ismail & King, 2006) and utilization of information and communication technologies would further enhanceSME's competitive advantage (Hashim, et al., 2012).

There are also other studies on procurement functions for Malaysian manufacturing firms. Thrulogachantar and Zailani (2011) demonstrated the positive link between efficient purchasing strategies and the firm performance of Malaysian manufacturers. In a similar context, Ndubisi et al. (2005) draw a link between effective supplier management strategies and manufacturing flexibility for Malaysian companies. Shatat and Udin (2012) reported that enterprise resource planning (ERP) systems could help improve supply chain management for Malaysian manufacturers. Janda and Seshadri (2001) reveal that manufacturers spend more than half of every sales dollar on purchased products.

World Bank (2014) reported significant differences in the procurement practices with different manufacturing subsectors in Malaysia. Multinational petrochemical manufacturers sourced about 60% of their input from domestic sources. This could be attributed to the abundant local supply of raw materials such as petroleum and palm oil. As a comparison, multinationals in the electrical & electronic (E&E) sector, sourced less than 40% of their input from domestic firms (Sidin & Cheng, 1998). In this context, Mahani (1997) has pointed to the weaknesses of local firms as the reason for these multinationals sourcing their input material from overseas. Nonetheless, Mahani (1997) argues that manufacturers cannot downplay the

importance of having component suppliers near their manufacturing facilities. Local supply network, where SMEs play a major role, is especially relevant for lean production in the country's E&E sector

5. Overview of the Malaysian manufacturing sector

According to the Economic Planning Unit(EPUb), during the10th Malaysian Plan 2011-2015,the overall performance of the manufacturing sectorhas been generally encouraging, with positive growth in gross domestic product and exports. Industrialization is a part of the nation's important agenda, with manufacturing making up of an estimated growth of 4.8% per annum and contribute 23% to gross domestic productin 2015. However the share of Malaysia's manufacturing exports in the world market is declining, facing stiff competition from emerging economies such as the People's Republic of China, India and Vietnam, particularly in the electrical and electronic (E&E) sub-sector. It was reported that the manufacturing sector has not evolved to respond to changing global demands, producing products that are also manufactured by other countries. In the 11th Malaysian Plan 2016-2020, the government has planned tointroduce strategiesto chart a new direction for the manufacturing sector to produce high value, diverse and complex products. Underpinning this transition is the intensification of research and development as well as design and process improvements, adoption of sustainable manufacturing practices, compliance to standards, enhancement of market intelligence and stronger collaboration between stakeholders. Manufacturers are encouraged to expand into international markets by leveraging the AEC and free trade agreements(EPUc).

In line with Malaysia's ambition to become a high-income nation by 2020, the country has given significant focus to developing its manufacturing sector. The expectation under the 11thMalaysian plan is for the manufacturing sector in the country to restructure to remain competitive. Projecting from its global exports performance during the 10th plan, thissector would undoubtedly face stiff competition post-AEC from other ASEAN member countries and experience challenges of being fully integrated into the regional economy. Malaysia, as one of the founding members of ASEAN, is closely intertwined with the other economies in the region. As of 2011, a quarter of the country's exports are into ASEAN (ASEANb). As a standalone country, this nation of over 31 million people also competes with its neighbors for foreign direct investment (FDI) and seeks to position itself as the country of choice for foreign investors (Rasiah & Govindaraju, 2011).Of the RM364 billion received by Malaysia in FDI in 2012, 47.5% went to the manufacturing sector and 95.4% of the total manufacturing establishments is made up of SMEs (DOSM& SMECorp).

The importance of the manufacturing sector to the economy is evidenced in its contribution to the gross domestic product, external trade and job creation. The manufacturing sector accounted for 29% of the total 12.5 million available jobs in the country as at end of 2012(MOF& DOSM). To sustain the sector's contribution to the economy, workforce engagement as well as the retention of talent workers in the manufacturing sector is indispensable. It is imperative that organisations have an engaged and loyal workforce to remain resilient and competitive in the knowledge economy.

6. Impact of AEC on Malaysian manufacturing sector's competitiveness and procurement

The AEC is expected to have a wide-reaching impact on the competitiveness of the Malaysian manufacturing sector. The commoditization of goods, lower margins, shorter production cycles, rapid obsolescence of technology and skills, inability to compete against imports, wage constraints, inflation and bubble risk from a sudden influx of capital represent some of the challenges identified (Lam & Wattanapruttipaisan, 2005). The repercussions are expected to include a reduction in export volume, substantial financial losses, inefficient restructuring, insolvency and an impact on the cost structures of the industries (Thomas & Nash, 1991). Despite these repercussions, as discussed earlier, Abidin et al. (2012) and Mamman et al. (2012) reveal that the level of awareness and concern of Malaysian private businesses regarding the impact of the AEC is low and worrying.

Challenges faced by the manufacturing sector lie in the ability of the business operations to remain competitive with the increased regional competition, primarily caused by liberal access to new ASEAN markets, access to new distribution networks, access to new capital, lower cost of operation, higher

customer power and larger scale of operations. Various studies have foundopening up supply markets for international procurement bring an increase in intra-regional sourcing due to the removal of tariff and non-tariff barriers. There will also be a change in the power dynamic between buyers and suppliers, an improvement in regional supply chain cost effectiveness, cheaper and faster logistics, the emergence of highly specialized suppliers to cater to a larger combined market and an increased demand for raw materials (Cox, 2001; David, 1985; Farmer, 1972; Rajagopal & Bernard, 1993a, World Bank, 2014). The Nielsen Global Consumer Confidence Survey suggests branding will also be a key factor, where manufacturing companies with strong brand equity are expected to gain significantly due to high brand consciousness in ASEAN (Nielsen, 2013). Malaysian manufacturers insulated all this time from competition at home due to their 'home knowledge' and logistical advantages would be expected to see a gradual diminishing of these advantages, as the playing field starts to level with the entrance of regional and multinational players.Manufacturers could become targets for mergers and acquisitions (M&A), as this would the fastest way for progressive competitors to expand. There would likely be more consolidation in various industries and smaller players could find it difficult to survive without a clear value proposition. The 11th Malaysia plan report on manufacturing global export performance in the period 2011-2015 supports these possibilities (EPU, 2015).

On the other hand, the full implementation of AEC policies is expected to bring significant opportunities for Malaysian SME manufacturers, includingthe following:

- There is likely to be an expansion in the supply networks, allowing industries to source raw materials more efficiently and competitively. Elimination of intra-ASEAN import tariffs, the simplification of cross-border trading processes including customs procedures and the harmonization of technical regulations and mutual recognition arrangements all present an opportunity for manufacturers to reduce their input costs.

- Physical improvements in transportation and other infrastructure networks will facilitate cross-border transportation and contribute to the reduction of overall costs of doing business, providing manufacturers the opportunity to work with trade partners more productively.

- Increased distribution channels will present manufacturers with the avenue to find new markets for their existing products. Manufacturers could possibly target new market segments that they have not been able to access until now.

- Malaysian manufacturers with competitive advantages and financial power could look to M&A as a quick way to become regional competitors and gain a foothold in the other ASEAN markets. Alternatively, they could also look to achieve organic growth by looking for new investments in the ASEAN member countries to strengthen their role in regional and global value chains

The lesson deduced from the opportunities and threats discussed thus far is that the building of critical procurement competences would be required for SMEs to remain competitive in a post-AEC environment. This is supported by the work of Gobel (2014), Fernquest (2012) and Lee & Fukunaga (2013).

7. The theoretical framework for procurement competencies

A general level of recognition of the importance of procurement dates back to the mid-1970s. Throughout the 1970s, the procurement function continued to be seen as more administrative than strategic. Monczka et al. (2004) suggest that in the early days, procurement was simply seen as a cost activity that could not be avoided, with Giunipero et al. (2006) adding that it was viewed as clerical stuff. Up to 1970, supplier–manufacturer relationships were typically conducted at arm'slength and primarily focused on price negotiations (Szwejczewski et al., 2005).With rising uncertainty in the business environment and rapid globalization over the last 40 years, firms began to appreciate procurement as a strategic support activity that creates value for the firm (Cousins, 2005; Monczka et al, 2004;Rajagopal & Bernard, 1993b; Thrulogachantar & Zailani, 2011). Porter (1980) emphasizes the importance of procurement in his five forces model of competitive advantage. Procurement has been increasingly been looked upon as a strategic

function, rather than just operational in various studies since(Cetinkaya et al., 2011; Cox, 2001; Das & Narasimhan, 2000;Giunipero et al. 2006; Kraljic, 1983).

In the new millennium, the development of the procurement function through supply chain management capabilities heralded a new era (Monczka et al., 2004). Giunipero et al. (2006) argue that supply management professionals play a more strategic role in business than before, with a focus on building long-term strategic relationships and lowering total business costs. Various research studies concur on procurement and supply competence as a critical business competence for effective strategy decision-making (Cox, 2001; Das & Narasimhan, 2000). Das and Narasimhan (2000) advocate procurement as one of a firm's core competences in achieving manufacturing competitiveness. The continuous focus on cost in the new era has firmly anchored procurement's strategic role in the financial performance of the firm (Das & Narasimhan, 2000; Janda & Seshadri, 2001; Thrulogachantar & Zailani, 2011).

The key procurement competenciesfor the new global eraemerging from the various literatures are studied and grouped into 4 main categories. They form the 4 key performance areas in the framework applied in this empirical research and arediscussed in the following subsections.

7.1 Strategic alignment of procurement function

Theintegration of purchasingwith other internal departments is a key concern as highlighted in various studies.Das and Narasimhan (2000) discuss how the integration of the procurement function enables an alignment between procurement practices and the business objectives of a firm. Szwejczewskiet al. (2005) discuss how the procurement function of a firm plays an important role in coordinating the flow of information between the external supplier base and various internal departments. Relevant data provided by the procurement function, such as suppliers' capacity and production rates, logistics, pricing, discount and new-product information can enhance the decision-making processes of other functions within the firm. Monczkaet al.(2004) stress the need for the procurement function to communicate closely with internal stakeholders, especially as cost and quality are determinants of effective procurement performance. Fawcett et al.(2000) discuss the positive link between the availability of information capabilities and the building of cost and quality competences for manufacturing firms.

7.2 Strategicsupplier relationship management

Procurement plays a critical strategic role in supplier relationship management (SRM). The key activitiesof supplier relationship building and development, include maintainingpower balance with suppliers in negotiations and pricing, segregating relationship management according to the criticality of the supplied resource and building partnerships through investment in capabilitybuilding (Cox, 2001; Kocabasoglu & Suresh, 2006; Olsen & Ellram, 1997; Petison & Johri, 2008; Giunipero et a., 2006). SRM is also a key information source to support procurement planning (Kraljic, 1983; Parket al.2010; Shatat & Udin, 2012).Szwejczewski et al. (2005), Cox (2001), Olsen and Ellram (1997) and Park et al. (2010)discuss extensively the importance of building buyer–supplier relations.Szwejczewski et al. (2005), Giunipero et al. (2006) and Thrulogachantar & Zailani (2011) also emphasize on developing strategic alliances and long-term supplier collaborations.Ndubisiet al.(2005) show how the right supplier selection and supplier management strategies can support the operating flexibilities required by manufacturers on product launch and supply volume.

7.3 Managing global supply chain risks

Various studies point to the importance and need to continuously evaluate and develop supplier capability as a strategy to managing supply risks (Narasimhan et al., 2001; Park et al., 2010). Facilitating systems and technologies are also found to be important (Fawcett et al., 2000; Kraljic, 1983; Park et al., 2010; Shatat & Udin, 2012).Wu et al. (2006) propose supply risk classification and identification along the paradigms of internal versus external, and controllability. Szwejczewski et al. (2005) explores risks associated with different sourcing options. Cetinkaya et al. (2011) discuss a market-responsive process that would be effective in managing supply risk in the changing business environment. Zsidisin (2003) investigates supply risk in terms of individual supplier failures, market occurrences, supplier concentration risk and their impact on business outcomes.

A recent survey report by Dittmann (2014) reveal that despite unprecedented challenges in the business world, many supply chain executives have done very little to formally manage supply chain risk with 90% of the firms investigateddid not quantify risk when outsourcing production. One of the largest under-appreciated factors associated with dealing with offshore suppliers is the element of risk. Harland et al. (2003) advocate product/service complexity, globalization, outsourcing and e-business as key drivers for the growing complexity of supply networks. A popular framework is Kraljic's portfolio matrix, which categorizes risk in terms of complexity of the supply market, profit impact and supply risk (Kraljic, 1983). The matrix suggests that a firm can develop several strategic supply scenarios based on different assumptions about supplier strength, price, volume and risk.Obtaining offshore supplies presents a whole new set of risk factors.

7.4 Global sourcingand supply base optimization

Monczka and Trent (2003) have identified three evolving levels of procurement strategies – domestic purchasing, international purchasing and global sourcing. With globalization and trade liberalization, the future trends in procurement concern the practices with global sourcing (Monczka & Trent, 2003; Rajagopal & Bernard, 1993; Talluri & Narashimhan, 2005), strategic alliances and long-term supplier partnerships (Giunipero et al., 2006; Szwejczewski et al., 2005; Thrulogachantar & Zailani, 2011), and the adoption of e-procurement and ERP systems (Park et al., 2010; Shatat & Udin, 2012).Decades ago, Monczka and Giunipero (1985) have already discussedthe importance of analyzing international procurement opportunities and enhancing the international procurement knowledge base. In more recent times, Petersen et al. (2000) propose business capabilities would also include knowledge of exchange rates, understanding of foreign markets, foreign regulations and foreign language skills.

In spite of the many challenges, the practice of integrating and coordinatingprocurementactivities across worldwide business locations can provide significant competitive advantage (Monczka & Trent, 2003). Aside from the tangible benefits of cost savings, supply chain differentiation, quality improvement and better delivery performance (Petersen et al., 2000; Rajagopal & Bernard, 1993; Cetinkawa et al., 2011; Cousins, 2005; Seshadri, 2011), global sourcing is also credited for 'soft' benefits which include closer cooperation between business units and the procurement function,and improved communication and development of critical information systems (Petersen et al., 2000).

Different supply objectives require specific procurement competences and strategy in globalsourcing decision-making (Loppacher et al., 2007). Seshadri (2011) investigates several sourcing practices and argues that two main behavioral constructs, supply commoditization and supply innovation, underlie many of these practices. In considering supply base optimization as a means of ongoing continuous improvement for realizing a lean supply chain, Talluri and Narasimhan (2005) caution against supplier reductions that may cause a firm to be over dependent on a few suppliers.In this context, Szwejczewski et al. (2005) discuss the various sourcing options along the single- to multi-sourcing continuum and suggest each has its merits and challenges.

8. Research scope

The following sets the boundaries for this empirical study on procurement practices.

8.1 Resource based (RB) and Electrical & Electronics (E&E)

This research focuses on just two main subsectors in the Malaysian manufacturing sector. These sub-sectors are deemed significant as they have contributed almost 46% of the total manufacturing output in 2013 and are the two biggest manufacturing sub-sectors in the country.

--- Figure 1 about here ---

RB manufacturing (petroleum, chemicals, plastics and rubber products) emerged as the largest manufacturing subsector in Malaysia since 2005, whereas the E&E subsector, which is dominated by foreign multinationals, contributes 4% of global E&E exports in 2013 (Yean, 2004; MEM, 2014). Research

interest is placed specifically on the procurement practicesin these 2 main manufacturing sub-sectors because procurement plays a critical role in their production-cost competitiveness.

8.2 Local and foreign ownership

Both locally-owned SME and foreign-owned manufacturing firmsarepurposefully included in the study, to provide a contrast in practices. Foreign-owned firms for this study are definedin accordance withthe Malaysian Companies Act 1965. A foreign company may carry out business in Malaysia by either incorporating a local company or registering a branch in Malaysia. Any local company, in which more than 50% of its share is held by foreign company, is deemed as a foreign company. The participation of foreign-owned manufacturers is significant in the Malaysian manufacturing industry, primarily due to favourable government policies, liberal equity policy and attractive tax incentives (Laplane, 2008). 58.5% of all approved manufacturing projects were funded by foreign direct investments in 2013 (Figure 2).

--- Figure 2 about here ---

On the other hand, 41.5% of the $52.1 billion investment approved for manufacturing projects in 2013, are from domestic investors for expansion, diversification, and new projects development. Local Malaysian manufacturers are found to have begun shifting towards high value-added, high technology, knowledge intensive and innovation-based industries, to fend off intensive competition from global investors (MIDA, 2013).

The significant presence of local and foreign-owned manufacturers warrants investigation of preparedness and practices for both types of ownership.

8.3 Economic Regions

The investigations are carried out in selected economic corridors in Peninsula Malaysia: Northern (NCER), Southern (IDR) and Klang Valley (GKL) regions (Figure 3). They form three out of the six economic corridors in the country. These economic regions are purposefully chosen for the study as they contribute 87% of total Malaysian manufacturing GDP in the Peninsula states.

--- Figure 3 about here ---

9. Research objectives and Purposes

This study has 2 main research objectives.

I. To investigate the procurement competencies and preparedness of Malaysian SME manufacturing operations for AEC with the four key procurement performance areas derived from literatures.

II. To contribute to existing SMEs' literature and knowledge base by exploringthe peculiar procurement practices and underlying assumptions of Malaysian SME manufacturers in the four key performance areas when confronted with regional economic integration challenges.

10. Research Framework

A list of activities are derived from the relevant literature review for each performance area in Section 7. The list of activities are then reviewed bythreeSME consultancy firmsin Malaysia, all specializing in supply chain management using a ranking survey of importance. The top 6 activities of average importanceby the three firmsare selected for each performance area as shown in Table 1. Theyform the framework for the research investigation under each performance area.

---Table 1 about here ---

11. Methodology

Stratified sampling was deemed to be most appropriate for the research. Random sampling was applied within each stratum, as depicted in Figure 4.

--- Figure 4 about here ---

The research targeted an overall manageable sample size of 40 manufacturers from the whole population. The sampling size of each main sub-sector was computed from the sub-sector's contribution to Malaysia's GDP in 2012 with an approximate equal representation from both local SMEs and foreign manufacturers under each sub-sector as shown in Table 2. The Department of Statistics Malaysia (DOSM & SMECorp) had 4 components listedthe RB sub-sector and sample wasalso taken from each component accordingly

--Table 2 about here ---

The target respondents for the survey and interviews were decision-makers in the procurement function of the participating local SME and foreign manufacturers. Firm contacts and email addresses were randomly taken from the SME Malaysia Directory 2014/2015, Malaysia Yellow Pages and Malaysia Business Directory. Concurrent mixed method data collection strategy was employed. A general survey instrument using a six-point Likert scalewas used to collect quantitative inputs from the participatingfirmsto explore their preparedness for AEC under each performance area and respectiveresearch activities. In depth semi-structured face-to-face interviews were also conducted with procurement decision-makers in 10 of the participating firms.

Twice the number of the target sample size for each sub-sector and component was initially contacted via email and by phone, in expectation of an average response rate. A copy of the survey instrument was then emailed to each interested participating firm and attention to the procurement managers or owners. Follow-up phone calls were made to ensure understanding and offer clarifications.Completed questionnaire were returned by emails. The survey was carried out between June 2015 and October 2015 until the target number of valid response was collected for each sub-sector sample asshown in Table 2.

One of the questions in the survey enquire aboutresponding firm's interest to be interviewed. From the firms that indicated their interest, one firm fromeach subsector and component in SME and foreign settings was selected for interviews.The selected responding firms were then contacted for meeting appointments. A series of interviews was conducted at the business premises of each selected firm. All managers and owners involved in procurement decision-making in the 10 responding firms were interviewed.A summary of the survey findings guided the semi-structure interviews and the focus was to explore the how' and 'why' for the answers given in the quantitative surveys. The interviews with all procurement decision-makers in the 10 firms were completed in January 2016.

12. Findings and Discussions

The 40 valid responses for the survey findings from the twomain manufacturing sub-sectors and their components are made up of RB chemical-related (25%), RB plastic-related (15%), RB petroleum-related (20%), RB rubber-related (10%) and E&E related (30%).Of the respondents,55% (22 firms) were local SME manufacturers and 45% (18 firms) were foreign manufacturers.RB manufacturers makes up 70% of the respondents and they are mostly SMEs. E&E manufacturers represent the majority of the foreign firms. Survey data sets for both local SME and foreign manufacturers were tested for statistical validity and reliability for analysis. Chronbach's alpha values were above 0.7 for both sets of data, indicating test results are reliable (value should be >0.5). The Kaiser-Meyer Olkin (KMO) scores, measuring sampling adequacy, for local SMEs and foreign companies were acceptable at 0.621 and 0.665, respectively(where $0.5 =< KMO < 0.7$ is deemed acceptable).

A total of 23 interviewees participatedin the study with each interview lasting 45-60 minutes. At least 2 procurement decision-makers were interviewed in each of the 10 responding firm.Interviews feedback were

coded and categorized according to the four performance areas and respective research activities. They were then synthesized for descriptive analysis and interpreted using primarily inductive approach. The data was further examined for meaning in the context of the organization, ownership and industry subsector.

The discussionsin the following subsectionsare based on findings from both survey and interviews. A summary of statistical means for the research activities under each procurement area from the survey findings arefirst presented under the respective subsection.

12.1 Procurement Performance Area: Strategic Alignment of Procurement Function

Procurement Performance Areas	Research Activities	Local SMEs	Foreign Firms	RB Sub-sector	E&E Sub-sector
Strategic Alignment of Procurement Function	a) Procurement contributes to corporate strategic planning	4.9	4.7	4.8	4.9
	b) Corporate management acknowledges the vital role procurement play in developing competitive advantage	5.0	4.8	5.0	4.7
	c) Corporate and procurement objectives are aligned	4.9	3.6	4.8	3.3
	d) Procurement participates in new product development and process design	3.3	3.9	3.3	4.3
	e) Procurement measured on strategic metrics	3.6	4.9	4.0	4.6
	f) There is an emphasis on continuous development of the procurement function to be recognized as a strategic role in the firm	4.5	4.9	4.4	5.2

Procurement isgenerally perceived as important and contributing to organization competitiveness. However, on exploring further, there are significant differences in the practices between SMEs and foreign firms.

Activities carried out by the procurement department in localSME manufacturers are found to be mainly of administrative and clerical nature. This is consistent with findings by Tassabehji and Moorhouse (2008), who argue that the strategic role of procurement professionals is not internally recognized and faces organizational barriers. To majority of the SMEs, the three critical functions in an organization are sales and marketing, finance and procurement. However, decisions for these functions are closely guarded and often made by the owners, CEOs, general managers or the finance controllers.As one SME owner commented, "procurement is the source of our business competitiveness. What we can bring to the market often depends on what we can get from our sources. This is way too important to let someone else who is not totally committed to the business to handle."

Foreign manufacturers are found to have more sophisticated procurement professionals manning the procurement departments andcontributing to strategic planning. It is interesting to note that although both SME and foreign manufacturers have considered procurement as important, the different practices have resulted in significant different scores for alignment of corporate and procurement objectives. The general practice of procurement decisions made by top management in SME operations could have contributed to a tighter alignment of objectives.

From the survey findings, the scores forprocurement participation in process design and new product development are generally low. For the SMEs, procurement staff are found to lack the necessary competencies; owners and top management areclosely involved with these processes.The competency of SME middle management to plan and oversee strategic procurement activities is found to be limited, asVon Corswant and Tunaly (2002) discussed. For the foreign firms where staff have higher capabilities, procurement's participation in these processes is still found to berather limited due to traditional organizational practices. For these organizations, there are clear demarcationof responsibilities and these processes are considered engineering roles.

Foreign firms are found to have more established system of performance measurements for procurement as part ofstringent controls and reporting requirements from headquarters. Procurement metrics are generally related to costs. Measurements are mostly financial and quantitative. Qualitative measures for supplier relationship management and sustainability areonly used by some of the foreign firms but none of the participating SMEs.

Manufacturers in the E&E subsector have more complex processes and products than the RB subsector. Less proficient procurement staff and systems were found in the RB manufacturers. This is in line with Lau and Yam (2005) who found that the lack of complexity in product encourages firms to utilize less skilled human resources, tools and systems.

There is a general high emphasis by all participating firms on the continuous development of procurement function from a passive or reactive role to a proactive role to support the overall strategic plan. In many cases, top management has realized procurement's profit-generating capability. Procurement was seen as a core competitive function, primarily due to raw materials making up a significant percentage of the cost structure in the increasingly competitive business world. The difference between SMEs and foreign firms is again the extent of delegation of procurement decision-making authority to procurement staff. Delegation practices have been widely considered as the growing pain of SMEs.

12.2 Procurement Performance Area: Strategic Supplier Relationship Management

Procurement Performance Areas	Research Activities	Local SMEs	Foreign Firms	RB Sub-sector	E&E Sub-sector
Strategic Supplier Relationship Management	a) Seeing suppliers not simply vendors but as actual and potential partners to drive competitive advantage	5.3	4.7	5.2	4.6
	b) Viewing relationships with suppliers as assets	5.4	4.6	5.4	4.3
	c) Mutual trust	5.0	3.0	4.5	3.1
	d) Top management commitment	5.1	2.9	4.5	3.1
	e) Information sharing beyond purchasing transactions	3.9	4.8	4.1	4.8
	f) Joint problem solving	2.4	3.8	2.7	3.9

SMEs score higher in overall supplier partnership programmes in the study. A SME general manager said, "We need our suppliers to be our partners. It is not an option. We purposefully expand our scope of interaction with them beyond purchasing and fulfillment transactions. We are tapping into their expertise and capabilities to drive innovation, enter new markets, quality improvements, exchange insights about marketplace trends and more".Findings reveal general agreement by most participating SME firms.

A key practice found with the SMEs is getting early supplier input to potential business proposal. An owner said, "If you want to improve collaboration with key suppliers, do not go off and come up with a proposal without involving them. Too many organizations do exactly that. They wind up with business proposals that suppliers do not fully understand and that they do not buy into, and thus the effort is compromised from the outset." Another SME manager added, "Supplier relationship management needs to be a joint effort – not managing suppliers so much as jointly managing relationships with them. What a lost opportunity, if customers and suppliers do not talk to each other and align their efforts. Collaborate with the suppliers from the start, and you will both benefit from each other's knowledge and experience and end up with a far more effective relationship management system."

It is also noted with SMEs that many of these organizations devote significant resources to their supplier management programmes without requiring suppliers to make immediate reciprocal investments. As one owner said"It is an investment in relationship; not a transaction. Reciprocity will happen and we need to take a longer time perspective of it".Mentzer et al. (2000) advocate that building trust requires time. This is consistent with findings from the study that SME manufacturers tend to have long standing relationships built on trust with suppliers who have supported their operations all along.

SME's top management perceives a need to have personal connections with suppliers and customers, a finding concurred by Pierce et al. (2001). In foreign firms, the responsibility for supplier relationship development is often delegated to the procurement professionals. Relationships tend to be formal and contractual.Despite having a relatively mature and sophisticated procurement organization, a procurement manager in one of the foreign E&E firms acknowledged, "We are often driven by short-term savings targets to do things we know do not make sense. For example, we regularly switch out key suppliers when we find a new supplier offering a significantly lower bid price. We do this despite serious reservations about the new supplier's ability to deliver required volumes at required quality. And if they fail to deliver, which often do, the costs of finding new suppliers, certifying them, and negotiating new contracts, far outweighs the original cost savings. And that is before we even try to estimate the lost sales that occur during the transition. Perhaps even more disturbing, we have periodically negotiated so aggressively with our key suppliers that we know we are depriving them of the margin they need to operate a healthy business. Sure enough, a year or two into the contract, they are out of business, and again, we incur losses that dwarf the negotiated price savings we achieved on paper. We can see it all coming, but we cannot stop ourselves. Somehow, we have not found a way to explain this to the top management. We do our best, but we feel caught between a rock and a hard place. We are rewarded for doing what we know is not the best thing for the business long term". That could explain the much lower scores for foreign firms and E&E subsector for both activities on mutual trust and top management commitment. The E&E subsector is also more involved inglobalsourcing. In contrast, the RB subsector purchases largely from domestic sources, thus supporting a higher degree of mutual trust with suppliers. ParticipatingRB manufacturers are mostly SMEs and that could explain a higher score in top management commitment.

The other 2 activities on information sharing and joint problem solving are also largely determined by trust. Abdullah and Musa (2013), Ebrhaim-Khanjari et al. (2011) and Butler (1999)have all found that improving trust and information sharing between trading partners would lead to improved relationship commitment in supply chain management. Jain et al. (2015) have found a positive relation between organizational climate dimension, trust and knowledge sharing. However, the extent of trust with suppliers is found to be a challenge for both SMEs and foreign firms in the study. In general,vigilance of suppliers to minimize vulnerability is still consideredas a healthy dose of functional distrust in business relationships. The general perception was that while relationships could be strong, suppliers might still be opportunistic in nature when it comes to business. As one manager commented, "Business is a game: a trust game. It all depends on threats, promises and payoffs". There is still a strong suspicion that suppliers would take advantage of trade and process knowledge that they are privy to, to push prices higher or share informationwith competitors. This element of distrust supports the underlying difficulties in establishing strategic supplier relationship discussed earlier.

For the SMEs in this study, the personal connections with suppliers have encouraged information sharing, mostly of informal nature. On the other hand, the general lack of asset sharing with suppliers and cautiousness with suppliers' commitment havesomehow impacted the extent of information sharing by these firms. Joint problem-solving in these firms is also informal and Carney (1998) has presented similar findings.Foreign manufacturers are found to have scored higher with information sharing largely due to the utilization of more sophisticated communication tools, which have enabled more concise information sharing with suppliers. These findings support Blomstrom and Kakko (1998)'s studies. Information sharing in these often larger firms is formal. Ragatz et al. (1997) have highlighted the necessity of top management commitment for information sharing between buyer and supplier. However, this study has revealed there appeared to be a nonchalant attitude towards information sharing with suppliers by top management in the foreign firms. Other motivationsof information sharing are found in these firms,which include formalized agreements, the need for joint performance management, confident in supplier capability and the requirement for asset efficiency sharing.Joint problem solving in foreign firms is largely on a need basis to

solve complex issues. These processes are closely monitored by formalized contracts withstipulated guidelines and boundaries of involvement.

E&E manufacturers, dominated by foreign multinationals, have scored higher than RB manufacturers. It is also noted that the balance of bargaining power between suppliers and the participating firms has an impact on information sharing. SME firms, with less bargaining power, often mitigate their weaknesses by focusing on building personal relationships with suppliers to obtain information informally.

12.3 Procurement Performance Area: Managing Global Supply Chain Risks

Procurement Performance Areas	Research Activities	Local SMEs	Foreign Firms	RB Sub-sector	E&E Sub-sector
Managing Global Supply Chain Risks	a) Established process for managing cultural gaps	1.5	2.9	1.7	3.1
	b) Established process for managing logistical challenges and priorities	1.7	4.8	2.3	4.9
	c) Established process for managing intellectual property (IP) risk	1.2	4.3	1.7	4.6
	d) Established process for monitoring of supplier responsiveness and capabilities	2.8	4.5	3.1	4.7
	e) Insurance used as a risk mitigation tool	1.8	4.1	2.3	4.2
	f) Established risk management processes in firm to assess supply chain risk	1.3	3.9	1.8	4.1

From the findings, over 55% of the respondents are procuringsolely fromdomestic sources and nearly 90% of these respondents are SMEs. RB firms make upthe majority of these responses. Despite the importance of identifying and mitigating risk as part of the supply chain strategy, the study has found little robust risk practices among the SMEs with either domestic or global sourcing strategies.Only one of the 22 participating SMEs rated the firm as 'highly effective' at supply chain risk management. 15 (70%) firms described their effectiveness as low or 'do not know'. Foreign firms score significantly higher for all research activities with more establishedformal systems to quantify risk when sourcing production. Most of these foreign firms have also developed management systems to protect the firm's IP. Initiatives include IP-related policies, IP compliance team, risk assessment and training that are improved on a continual basis.

A global survey of 572 executives conducted by the Economist Intelligence Unit (2012) reports 'differences in cultural traditions' to be the greatest obstacle to productive cross-border collaboration.The impact of cultural differences on commercial transactions is also widely explored in the business literature. Yet, the effect of cultural differences in international business transactions remains mostly ignored by the participating firms in this study. Even in most of the foreign firms, process for managing cultural gaps is not well established. For the SMEs, sourcing is mainly domestic and the necessity for a formalized process has largely not surfaced. However, many of the SME management are aware of the cultural implications of doing business across borders as oneSME manager said, "It is thecultural distance that affects the managerial decision whether to integrate a foreign supplier into our firm's boundaries or to cooperate with the latter at arm's-length. Right now, we are comfortable with our domestic suppliers".

The findings reveal that commitment to utilizing local suppliers first by SMEs is closely related to their desire to maintain personal relationships and the lack of managerial competencies to handle global transactions. In addition, the volume of business often does not make good justification with global logistical management for these firms. The other factors supporting their preferenceof working with local suppliers areshorter supply chains which lead to greater certainty and predictability of delivery times. As one manager commented, "The unit cost may be higher but that is more than compensated by our more responsive suppliers. We can also drop in to visit our suppliers anytime to address any concerns and ensure our purchases meet our standards".The operational impact of mainly local sourcingin the country by SMEswithvalue placed on trust and relationship has resulted in their lack of emphasis in establishing

systems for managing risks and intellectual property theft.The findings also highlighted the trust with suppliers was a key reason for insurance simply not on the radar screen of SME management as a risk mitigation approach. The other key reason is cost as insurance premium is often viewed as an unnecessary expense.

12.4 Procurement Performance Area: Global Sourcing and Supply Base Optimization

Procurement Performance Areas	Research Activities	Local SMEs	Foreign Firms	RB Sub-sector	E&E Sub-sector
Global Sourcing and Supply Base Optimization	a) International procurement knowledge	2.3	5.4	3.0	5.3
	b) System for global market analysis and identification of best-cost sourcing	1.2	5.2	2.2	4.9
	c) System for supplier performance evaluation and supplier selection	2.1	4.9	2.7	4.8
	d) Supply strategy to plan, develop and manage supplier base strategically	4.7	4.5	4.6	4.6
	e) Volume consolidation and parts bundling practices	4.4	3.9	4.3	4.0
	f) Supply flexibility and supply base reduction	4.5	4.6	4.6	4.5

Management in foreign firms has far more knowledge of international procurement when compared with that in local SMEs. As in the case of risk management, foreign firms are more experienced and have more established management systems and processes for global sourcing and managing suppliers.

An interesting finding with SMEs is that although manyof them have strategic supply strategies, further exploration revealtheseare often not documented. They are kept as trade secrets by the owners and top management. As one SME manager mentioned, "Our supplier base management is closely aligned with the strategic objectives of the firm.Today, it is no longer firm competing against firm; rather it is supply chain against supply chain. Having the right set of suppliers in our business is of paramount important. It is our secret success recipe".This SME's business practice is supported by various literature findings.Rajagopal and Bernard (1993) have argued that an organization is only as good as its sources of supply. Hahn, Watts and Kim (1990) also support this notion by arguing that without a competent supplier network, a firm's ability to compete effectively in the market can be hampered significantly. Fine (1998) emphasizes the importance of an organization's supply base by stating that supply chain design is the ultimate core competency.The findings for this study have shown SMEand foreign firms having similar level of competency in supply strategy.The major difference in practice is that the processes at the foreign firms are documented.

SMEs are found to have a higher score in volume consolidation and parts bundling. As purchase orders are small, aggregating orders with suppliers is a common practice with these firms to reduce inbound logistic costs. Having multiple suppliers for single product is deem impractical and expensive to manage. A comment by a SME owner, "Purchasing small volumes from multiple suppliersjust do not make sense as that can increase the amount of uncertainty in the supply chain. We need to take care of our suppliers' interests too. Demand patterns are much more stable and more easily matched by suppliers when fewer suppliers are being utilized".As most of these firms' procurement functions are headed by top management, that hassignificantly simplifiedthe decision-making process on consolidation of orders and supply chain design.Another SME owner clarified, "Optimization in supply chain design does not necessarily mean supply base reduction. The selection of suppliers in the chain takes on much greater importance.

As for the foreign firms, they often have more superior sourcing capabilities. However, bureaucracy is found to get in the way with consolidation and bundling decisions in these firms. This is supported by Wilson and Roy's (2009) studies with multinational corporations.This studyalso revealsthat E&E manufacturers experience higher supply chain risk than RB firms, as they are more involved in global sourcing. They are hence more concerned with mitigation of supply risk and tend to practice multiple sourcing strategies. To these more established firms, having a diverse supplier base also encourages

innovation, drives competition between supplier and allows the E&E manufacturers access to different networks through the suppliers.

Another key finding with local SMEs is that they are more able to negotiate last-minute delivery, volume and mix changes with their suppliers, particularly ones who have built strong personal relationships together, a finding that is supported by Cousins et al. (2006). Last-minute mix changes of supplies are found to be quite common due to the variability of business orders at SME operations. Mix changes at the last minute with suppliers for foreign manufacturer is complex and less frequent, as the materials planning process tends to be more complicated.However, the findings suggest that foreign manufacturers who are attractive clients, with significant volumes and growth prospects, tend to have leniency from suppliers too. Von Corswant and Tunaly (2002) support this finding.In comparison with the RB firms,E&E manufacturers operate more complex supply chains and suppliers tend to be less flexible with volume and mix changes.

13. Implications of SME manufacturers' peculiar practices for post-AEC era

This study investigates the preparedness of Malaysian SME manufacturing operations for AEC, gauging from four key procurement performance areas derived from literature. The findings suggest local SME manufacturers are prepared in the procurement performance areas of strategic alignment and supplier relationship management. They score poorly in managing global supply chain risks and system implementations. However, they are comparable with the foreign firms in supply strategy and ability to negotiate supply flexibility, giving them a mixed score for the performance area of global sourcing and supply based optimization.

Although local SME manufacturers lack the infrastructure and systems to manage suppliers, they have definitely placed significant importance in developing sustainable, quality supplier relationships through personal connections, and with firm commitment from top management towards achieving such objectives.

The study reveals that relationships established between local SME manufacturers and their suppliers are mostly social, relying predominantly on history, cultural similarities and proximity. This is in line with a study conducted by Sambasivan et al. (2011), who argue that relationship capital in the Malaysian manufacturing supply chain is a function of time, effort, personnel and cultural similarities. The entrance of new competitors, post-AEC, is expected to significantly impact the continuity of such buyer–supplier relationships when economic factors weigh heavily on business decisions in the increasingly competitive world. While cultural and local experience would provide local SME manufacturers with a temporary advantage, new entrants are expected to mitigate this disadvantage through the hiring of local staff to foster relationships. Furthermore, foreign manufacturers are significantly more prepared to incentivize suppliers with volume purchases. Another added value to the relationship will be that suppliers are more likely to be involved in collaborative design and production activities together in foreign firms, benefiting from thesefirms' superior technology and knowledge sharing.

However, one important observation to take away is that foreign manufacturers form relationships with a supplying company, while local SME manufacturers form relationships with individuals in the supplying firms. In many cases, the owners of local SME manufacturers are personally involved and committed to nurturing relationships with suppliers. The level of intimacy in personal relationships is closer than in the case of formal working relationships. The Asian culture believes in building friendships first and business later. As one SME manager remarked, "the competitors can take away our supplier data, but they cannot take away the chemistry we have with the suppliers". In addition, while foreign manufacturers can attempt to build relationships with domestic suppliers by hiring local staff, various favorable government policies for local manufacturers make this segment an attractive customer for domestic suppliers.

The findings reveal that the extent of mutual trust is a key factor in determining the quality of partnership with a supplier. The extent of trust exhibited by manufacturers also varies with the complexity of their products, where complex products often results in an intricate and global supply chain that is found to be more challenging for relationship building. This finding is supportedby Novak & Eppinger(2001). Comparing E&E and RB manufacturers, the E&E sector is found to have higher product complexity and expected to experience more intense foreign competition. Malaysia Economic Monitor (2014) reported that

the E&E subsector is also expected to experience challenges in controlling suppliers. The low-complexity RB manufacturers appear to have established exclusive arrangements for critical supplies, mainly from domestic markets, which would provide some market stability in the short term post-AEC. On the other hand, the low margins of the RB subsector discourage formal investment of resources in building relationships with suppliers. RB manufacturers view investing assets to strengthen relationships to be risky, and this may threaten margins further. RB manufacturers, mainly made up of SMEs for this study, have kept supplier relationship management informal and personal.

There are gaps in the local supply chain to support the manufacture of complex products, a challenge shared by both local SME and foreign manufacturers. Globalization of a business's supply chain introduces suppliers who are culturally different, further complicating relationship-building activities. Zailani and Rajagopal (2005) discover procurement integration with other functions within firms across borders in Asia lacks cohesiveness due to communications and culture. Furthermore, even when manufacturers engage with domestic suppliers from a similar culture, there is a need for proof of reliability and trustworthiness, which requires time to build, sustain and solidify.

The implementation of AEC aim to encourage local SME manufacturers to source regionally. However, the findings indicate that the low purchase volumes, coupled with high logistics costs and longer delivery duration, have made this an unattractive proposition for this economic sector. Moving forward, local SME manufacturers will need to be able to see the bigger picture with market changes post-AEC. Strategic sourcing is not about bundling and focusing just on cost. It is a systematic and fact-based approach for optimizing an organization's supply base and improving the overall value proposition. As Grant (2013) advocates, the prerequisites for success involve thinking about what customers want and also how the firm can survive the competition. The focus is on the total cost of ownership, while incorporating customer needs in theorganization's strategic goals. The new marketplace post-AEC is expected to be driven by a rigorous and collaborative approach to get the best product/service at the best value instead of just getting the cheapest product/service.

Foreign manufacturers are expected to benefit greatly from the AEC, particularly those involved in global sourcing, due to the expected increase of specialist suppliers producing at high volumes. The restructuring of industries and marketplace post-AEC will bring about significant bundling and volume consolidation opportunities in the ASEAN region. With the more advanced IT systems in place to track, manage and consolidate procurement, foreign manufacturers are also more likely to benefit from parts bundling in the complex supply network with the economic integration initiative. Local SME manufacturers will need to build capacity and capability to exploit these opportunities.In general, E&E manufacturers that have climbed the learning curve are expected to be better prepared to exploit the opportunities post-AEC.

The absence of relevant tools and systems for supply management and risk assessment in most local SME manufacturing operations is another key concern for these firms moving forward. The common practice of informality and trust based on personal relationships with suppliers has downplayed the need for them thus far.A related weakness of SME firms for the new marketplace is a general lack of management competenciesand skilled procurement professionals. Procurement involvement in strategic activities is expected to increase as the complexity of the industry environment increases. Procurement staff in high complexity environment are expected to possess higher-order thinking skillswith a broader knowledge base and capabilities. In this study, these are mainly found in the foreign manufacturing operations. Local SME manufacturers find it challenging to compete with foreign firms for talent. The new generation of workforce is attracted to work in established and branded organizations. Moreover, the findings suggest that SME manufacturers are mainly operating on low-cost strategies. The hiring of less-skilled staff and employing less sophisticated tools are often considered as the way forward with low-margin businesses.

On the other hand, the entry of competitors, post-AEC, with more superior knowledge and capabilities has been widely expected to bring about transformation in SME manufacturing operations to compete more effectively.Local SMEs are generally adaptable and nimble. As reported by Brundin and Gustafsson (2013), decisions in SMEs tend to depart from the norms of rational decision-making theories. From this study, the extent of preparedness is also found to be largely driven by the leadership of the SME firm. It is clear from the interviews that the owners are aware of the impact of AEC and globalization. However, there is a sense of pseudo-complacency and lack of urgency from top management to address the challenges. As

one SME owner said, "Whatever will come, we shall rise above. We have done that many times over. The shake-out is healthy. The price is whoever survive, will become stronger".Salavou et al. (2004) discover market-oriented and learning-oriented SMEs, when faced with strong competition, tend to be more innovative and resilient.In the post-AEC marketplace, these smaller organizations are expected tocontinue to dominate as the core of economic growth. Although larger organizations are more able to take advantage of economies of scale and cope with market changes (Goddard et al., 2005; Winter, 1994), greater size can also mean more complexity and loss of focus, agility and flexibility (Rogers, 2004; Yoon, 2004). The findings in this study support the previous works on organization size and performance. In addition, from the interviews feedback, it suggests finding the rationale is the key driver for change with SMEs. Once the rationale is clear for these firms to fine-tune their business strategies,acceptingnew advances in technology and using it to their advantage to meet the changing global market needs can be expected to executespeedily with the agility of these organizations'structure.

Another emergent finding is that many of the local SME operations are managed by ethnic Chinese. Even though they are a minority in Malaysia, overseas Chinese control a disproportionate share of the country's national trade (Ho, 2005). A key characteristic of the Chinese culture that has a pervasive impact on their business success is the philosophical *yin-yang* mind set (Chen, 2002; Fang, 2012). Chinese entrepreneurs see a profound connection between adversity and change: crisis is not seen as an insurmountable problem but as an aspect of transformation, demonstrating how paradoxical thinking can lead to opportune action. Perhaps, the AEC is just another opportunity for transformation that these entrepreneurs are bracing for, not an insurmountable challenge.

14. Contributions of the paper and scope for further research

In recent times with growing recognition of the importance of the procurement function, purchasing and supply models have been developed from various research studies. Theyhave provided meaningful insights for procurement management in the global era. However, many of these models wereadopted and generalized across all business settings and business environments by managers to manage procurement activities and supply chain performance. This research attempts to systemically examine business practices of Malaysianmanufacturers and their preparedness for the AEC with procurement performance theories from literature. The findings from this empirical study reveal that the managerial practices in Malaysian SMEs run counter to some of the developed theories of performance.

Thecontributions of this paper to the knowledge base of ASEAN business practicesare significant, as the empirical findings have provided a more in-depth understanding of the procurement competency situation in practice on the ground with Malaysian SMEs in different industrial and ownership contexts. As Tung (2014) advocates, research in Asia must also recognize intra-nationaldiversity.The findings also revealpeculiar procurement and cultural practices with this important economic sectorin the four investigated performance areas. The contextual differences in SME businesses and their attitudes towards globalization are found to be relevant for analysis of performance in procurement processes and strategies. The same contextual differences should also be considered in gauging their preparedness for global competitions.

Witheconomic integration activities, it is important to consider the equitable inclusiveness of all communities especially those that have less resource and capabilities.The empirical findings in this paper can be extended to further investigations with SMEs in other ASEAN economies.Further research can also be carried out with theapplication of other competency models to explore attributes of preparedness for regional trade liberalization and globalization. In addition, as SMEs continue to dominate the ASEAN economic development agenda with Chinese businesses exerting increasing economic power across the region, more in-depth research into the emergent findings on contextual differences with SME strategic decision-making and Chinese paradoxical thinking in business strategy could provide a richer picture to theoretical explorations on similar topics of organization preparedness.

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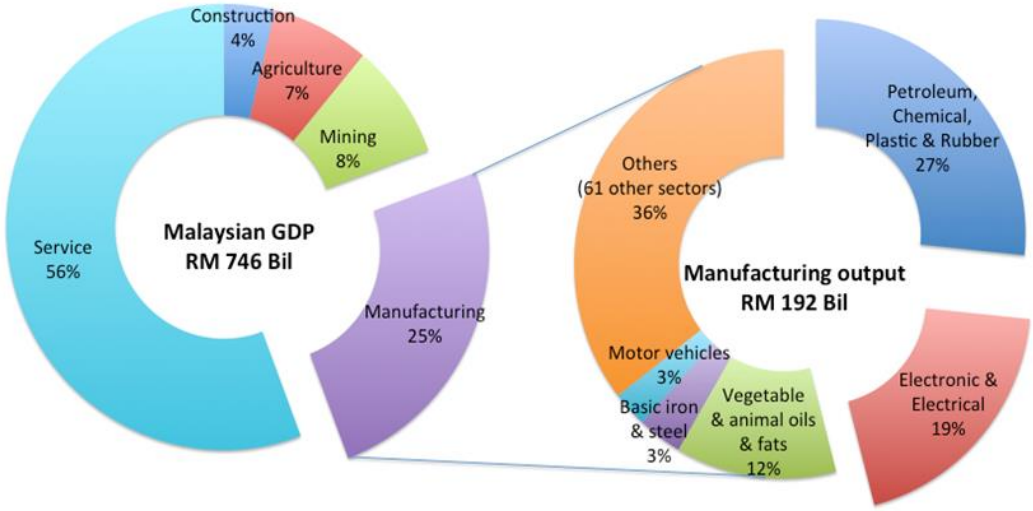
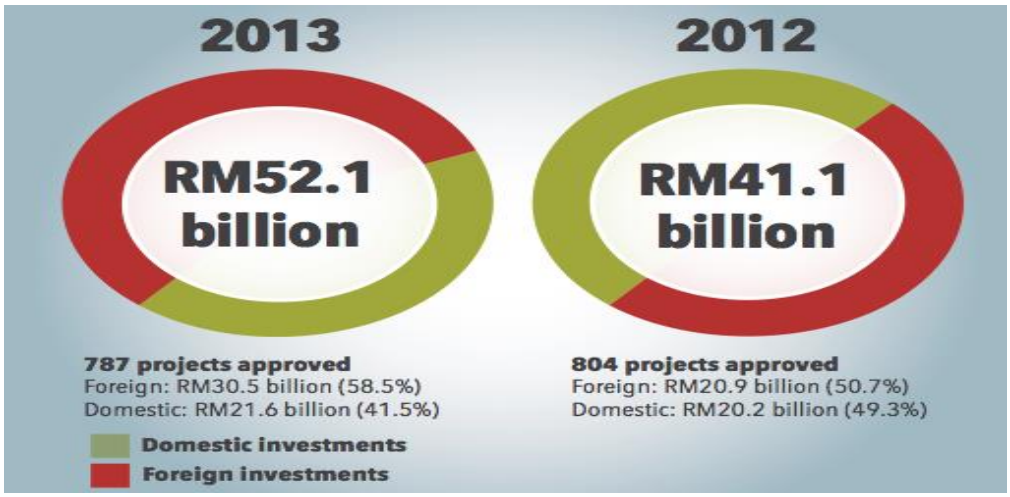
Figure 1
Contribution to the gross output by manufacturing groups towards Malaysian GDP



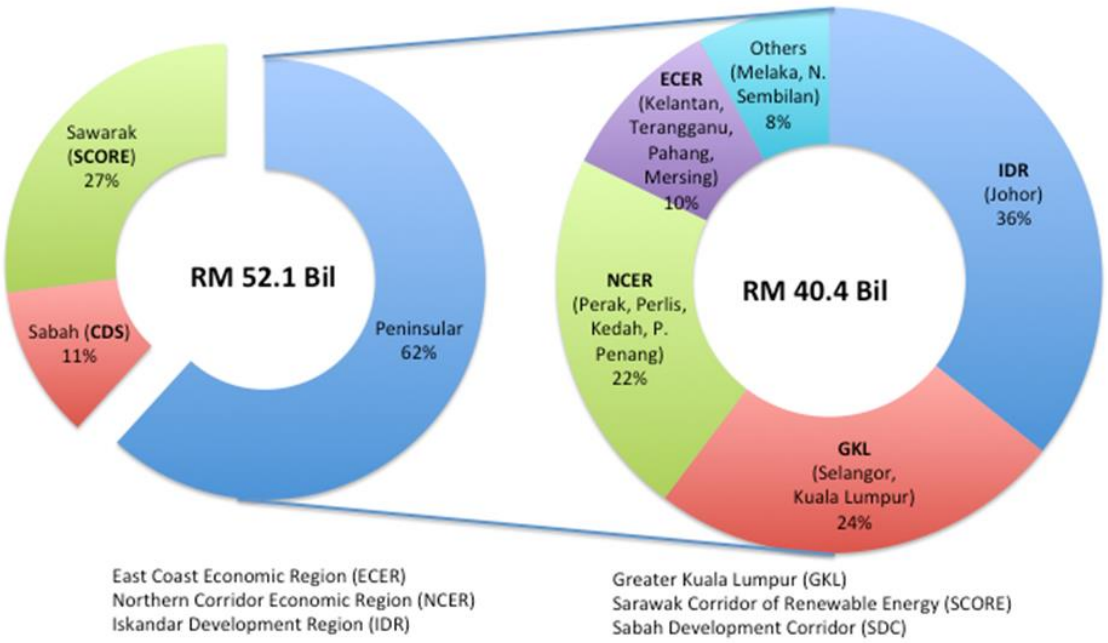
Source: The Malaysian Economy in Figures 2013, EPUa (2013)

Figure 2
Sources of investments in approved manufacturing projects



Source: Malaysia Investment Report, MIDA (2013)

Figure 3
Investment in approved manufacturing project by locations



Source: Malaysia Investment Report, MIDA (2013)

Figure 4
The sample population and five sub-populations

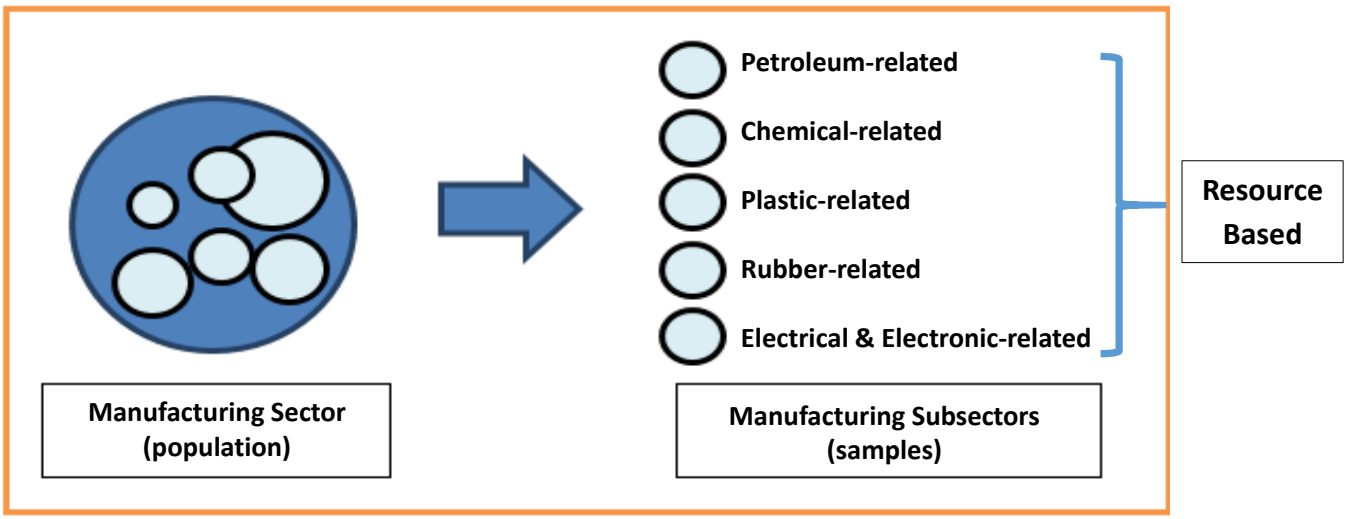


Table 1

Procurement Performance Areas and Activities

Procurement Performance Areas	Research Activities
Strategic Alignment of Procurement Function	1. Procurement contributes to corporate strategic planning 2. Corporate management acknowledges the vital role procurement play in developing competitive advantage 3. Corporate and procurement objectives are aligned 4. Procurement participates in new product development and process design 5. Procurement measured on strategic metrics 6. There is an emphasis on continuous development of the procurement function to be recognized as a strategic area of the firm
Strategic Supplier Relationship Management	1. Seeing suppliers not simply vendors but as actual and potential partners to drive competitive advantage 2. Viewing relationships with suppliers as assets 3. Mutual trust 4. Top management commitment 5. Information sharing beyond purchasing transactions 6. Joint problem solving
Managing Global Supply Chain Risks	1. Established process for managing cultural gaps 2. Established process for managing logistical challenges and priorities 3. Established process for managing intellectual property risk 4. Established process for monitoring of supplier responsiveness and capabilities 5. Insurance used as a risk mitigation tool 6. Established risk management processes in firm to assess supply chain risk
Global Sourcing and Supply Base Optimization	1. International procurement knowledge 2. System for global market analysis and identification of best-cost sourcing 3. System for supplier performance evaluation and supplier selection 4. Supply strategy to plan, develop and manage supplier base strategically 5. Volume consolidation and parts bundling practices 6. Supply flexibility and supply base reduction

Table 2.
Sample sizes of target manufacturing sub-sectors.

Main Sub-sector	Components	Contribution(gross output*) %	Sampling ratio	Target survey sample size of 40 (rounded up)			Interview sample size of 10		
				Local SME	Foreign	**Total**	Local SME	Foreign	**Total**
Resource based	Petroleum-related	18.9%	0.34	7	7	**14**	1	1	**2**
	Chemical-related	6.6%	0.12	3	2	**5**	1	1	**2**
	Plastic-related	2.6%	0.05	1	1	**2**	1	1	**2**
	Rubber-related	3.9%	0.07	1	2	**3**	1	1	**2**
Electrical&electronic		23.0%	0.42	8	8	**16**	1	1	**2**
Sub-totals		55.0%	1.00	20	20	**40**	5	5	**10**

*Source: * DOSM & SMECorp: SME Census 2011*